

## Deepwater Horizon Dispersant Use Meeting

May 26 – 27, 2010

Baton Rouge, LA

The Coastal Response Research Center (CRRC), a partnership between NOAA's Office of Response and Restoration (OR&R) and the University of New Hampshire (UNH), was formed in 2004 to address the need for improved spill response and restoration. The Center oversees and conducts independent research, hosts workshops, and leads working groups that address gaps in spill research with respect to the fate, behavior and effects of oil released into the environment, natural resource damage assessment (NRDA), and compensatory restoration. The Center brings together representatives of federal and state agencies, industry, the private sector, academia, and NGOs from within the United States and around the world. Since its inception, CRRC has hosted over 20 workshops on a variety of topics across the spectrum of oil spill R&D needs to determine the state-of-the-art in spill response and restoration and identify knowledge gaps and the research needed to address them. The workshops result in reports that specify research needs and serve as guidelines for research plans and proposals. Working groups formed in response to the reports, coordinate funding for specific R&D projects to avoid duplication of effort and ensure that the research meets accepted standards of peer review.

The Deepwater Horizon incident has resulted in the release of millions of gallons of crude oil into the Gulf of Mexico. Efforts to stop the release have thus far proved ineffective or incomplete. Efforts to manage this spill have included the largest use of chemical dispersants for any spill response in the world – more than 700,000 gallons have been applied as of May 22, 2010. Most of the application has been from aircraft, but the U.S. Coast Guard and USEPA have sanctioned their use at the source 5,000 ft below surface. This unprecedented use of dispersants in the response has caused concerns. Given that this release may continue for several additional weeks or months, prudent planning for future dispersant operations in this incident requires a thorough review of dispersant operations conducted to date.

The goals of the Deepwater Horizon Gulf-Wide Oil Spill Summit on Dispersant Use will be to: (1) assess the efficacy of dispersant application in this incident including an estimation of dispersant efficiency; (2) assess the effects and potential exposure pathways associated with the surface and deepwater use of dispersants on the spill including, but not limited to, those posed to individuals, populations, habitats and ecosystems and the attendant human activities (e.g., seafood safety with respect to hydrocarbons and dispersants; recreational, subsistence and commercial fishing, beach use); (3) develop a plan for monitoring and assessing the efficacy and effects of dispersant use in the Deepwater Horizon incident; (4) Develop a plan for monitoring air quality; and (5) provide specific recommendations to the Region 4 and Region 6 Regional Response Teams (RRT) on the advisability of continuing the current level of dispersant operations including changes in dispersant use and application methods for the spill.

The 40 to 60 participants in the summit, plenary speakers, and breakout group discussion topics will be selected by an organizing committee comprised of leading scientists, practitioners, and representatives from federal and state governmental agencies, as well as NGOs. The organizing committee will be chaired by the CRRC.

The two day summit will be held in Baton Rouge, LA on the LSU campus on May 26 – 27, 2010. The end result of the summit will be a written report describing the discussions, identifying concerns about dispersant use evaluated based on the information available to date and outlining studies needed to address those concerns. The report will include all notes taken by recorders and copies of all presentations made. All of the information will be posted on the CRRC's website with links to the site on appropriate spill-related websites (e.g., <http://www.deepwaterhorizonresponse.com>).

All logistics for the summit will be managed by CRRC, including locating the venue, invitations, recorders, and report writing. The organizing committee will be chosen by representatives of ICOPAR, JSOST, and CRRC in conjunction with Dr. Paul Sandifer who will serve as an external science point of contact.

A final report including recommendations for future dispersant operation in this incident will be produced by . . . and delivered to . . .

Some more general thoughts garnered from talking with other ERD folks.

The questions the workshop aims to address need to be sharply focused. The following list is probably too long, but some suggestions include:

- Do the data show that dispersant application has been effective in this incident?
- Have dispersant operations adversely impacted on-the-water recovery?
- Is there any evidence that dispersant application is protecting resources as expected?
- Is there additional monitoring or effects testing that should be conducted as part of dispersant application?

We also need to clearly define what we want to get out of this summit w.r.t. the current incident. Examples include:

- Recommendations on tactics for future dispersant operations in this incident including an assessment of other potential dispersants.
- A comprehensive monitoring plan.
- A plan for conducting chronic exposure assays including consensus on test organisms (oyster or shrimp larvae).
- A plan to identify chemical marker(s) for exposure to dispersants.

Three reports should be completed before the workshop. The first should describe in detail where, when, and how dispersants have been applied to the spill including a discussion of how

those protocols have evolved during the incident. The second is an analysis of SMART data and aerial observations of the operations focusing on water column concentration w.r.t. efficiency and potential for effects. There should be separate analysis for the deep water injection and aerial application. The third should provide an analysis of ecological effects including chronic exposure,

The workshop needs multiple tracks, 1) operational issues (how to apply) 2) effectiveness issues, and 3) ecological effects issues. The first morning should be focused on presenting the three reports identified above. The first afternoon should we should hold breakout groups around the pre-defined questions (above). On Day 2, we come back together and discuss the results from the breakout groups, and and spend the afternoon forming recommendations and next actions.

#### List of potential invitees

Ed Levine – NOAA SSC

Charlie Henry – NOAA SSC

Alan Mearns – NOAA ERD BAT

Gary Shiginaka – NOAA ERD BAT

Nicolle Rutherford – NOAA ERD BAT

Mark Miller – NOAA rep at NIC (sub-sea dispersant study)

Jim Clark

Tom Coolbaugh

John Incardona – NOAA toxicologist at NWFSC w/ expertise in oil & dispersants

Jeep Lee – NOAA, Auk Bay NMFS lab

Jeff Short – Oceana (formerly w/ NOAA Auk Bay lab)

Adriana Bejerano (sp?) – RPI toxicologist under contract to NOAA

Debbie French-Mackay – ASA modeler

CJ Beagle-Krause – modeler under contract to NOAA

Al Venosa

Ed Overton - LSU

Bob Pond – USCG

Don Aurand

Gina Coello

Buzz Martin – TGLO

Ops rep on dispersant application

Ops rep on SMART monitoring

EPA rep from group currently conducting dispersant toxicity assessments

Reps from RRT 4 & 6 (to be provided by Charlie)

Other issues:

Several broad concerns were brought up:

Many of the folks needed for this are already busy with the spill. Can we break enough people away?

There are many other groups looking at dispersant issues. How are we going to make sure we get them all together? If we don't, we'll hav an incomplete picture and may tread on some toes just by holding the meeting.

What exactly are we trying to accomplish? Are we trying to identify needs or resolve specific identified issues?

Table 1: CRRC Workshops.

U.S. Coast Guard Arctic Response - April 23, 2010
NRDA in Arctic Waters: The Dialogue Begins - April 20-22, 2010
Sea Grant & NOAA ORR Collaboration - January 25, 2010
Ocean Uses Atlas - January 12-14, 2010
Response to Liquid Asphalt Releases in Aquatic Environments - October 21, 2009
2009 Research & Development Needs - March 17-19, 2009
Oil Spill Modeling Working Group Meeting - September 16-17, 2008
Opening the Arctic Seas: Envisioning Disaster & Framing Solutions - March 18-20, 2008
HEA Metrics Workshop - December 4-6, 2007
Environmental Response Data Collection Standards - September 25-27, 2007
Modelers' Summit - June 26, 2007
Submerged Oil Workshop - December 12-13, 2006
Innovative Coastal Modeling for Decision Support: Integrating Physical, Biological, and Toxicological Models - September 26-28, 2006
Toxicology Working Group Summit - August 15 & 16, 2006
Workshop on Research Needs: Human Dimensions of Oil Spill Response - June 13-15, 2006
Research & Development Needs for Making Decisions Regarding Dispersing Oil - September 20-21, 2005

Table 2: CRRC Working Groups

Dispersants Working Group
Modeling Working Group
Submerged Oil Working Group
Toxicity Working Group
Ephemeral Data Working Group